Fourier--Mukai Transforms for Compactified Pryms and the LSV Fibration

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Venue:Room 102, SCMS

Abstract: In this talk, I will present an extension of the Fourier--Mukai transform to the relative compactified Prym variety associated with a family of étale double covers of integral curves with planar singularities. I will explain the construction of a Poincaré sheaf on the compactified Prym and show that the integral transform with this kernel induces a derived auto-equivalence. As an application, the Laza--Saccà--Voisin (LSV) fibration, constructed as a smooth compactification of the intermediate Jacobian fibration, is shown to be a dualizable abelian fibration satisfying the Fourier vanishing condition. This implies the multiplicativity of the motivic perverse filtration of the LSV fibration.